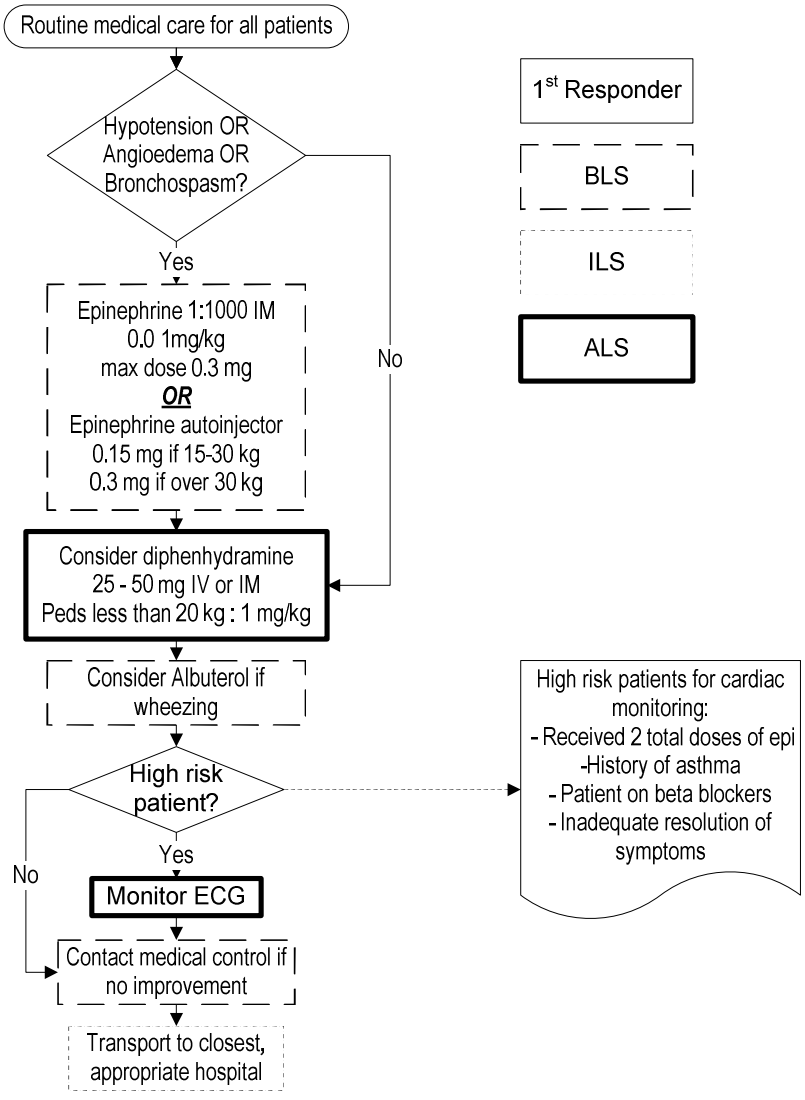
Initiated: 5/22/98	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11	**MEDICAL PROTOCOL**	WI EMS Approval: 6/22/11
Revision: 10	**ALLERGIC REACTION**	Page 1 of 1

History:	Signs/Symptoms:	Working Assessment:
Known allergy	Hives, itching, flushing	Anaphylaxis
New medication	Anxiety, restlessness	Asthma
Insect sting/bite	Shortness of breath, wheezing, stridor	Shock
History of allergic reactions	Chest tightness	
Listen for history of:	Hypotension/shock	
Hypertension, coronary artery disease or current pregnancy	Swelling/edema	
	Cough	
Asthma	Nausea/Vomiting	

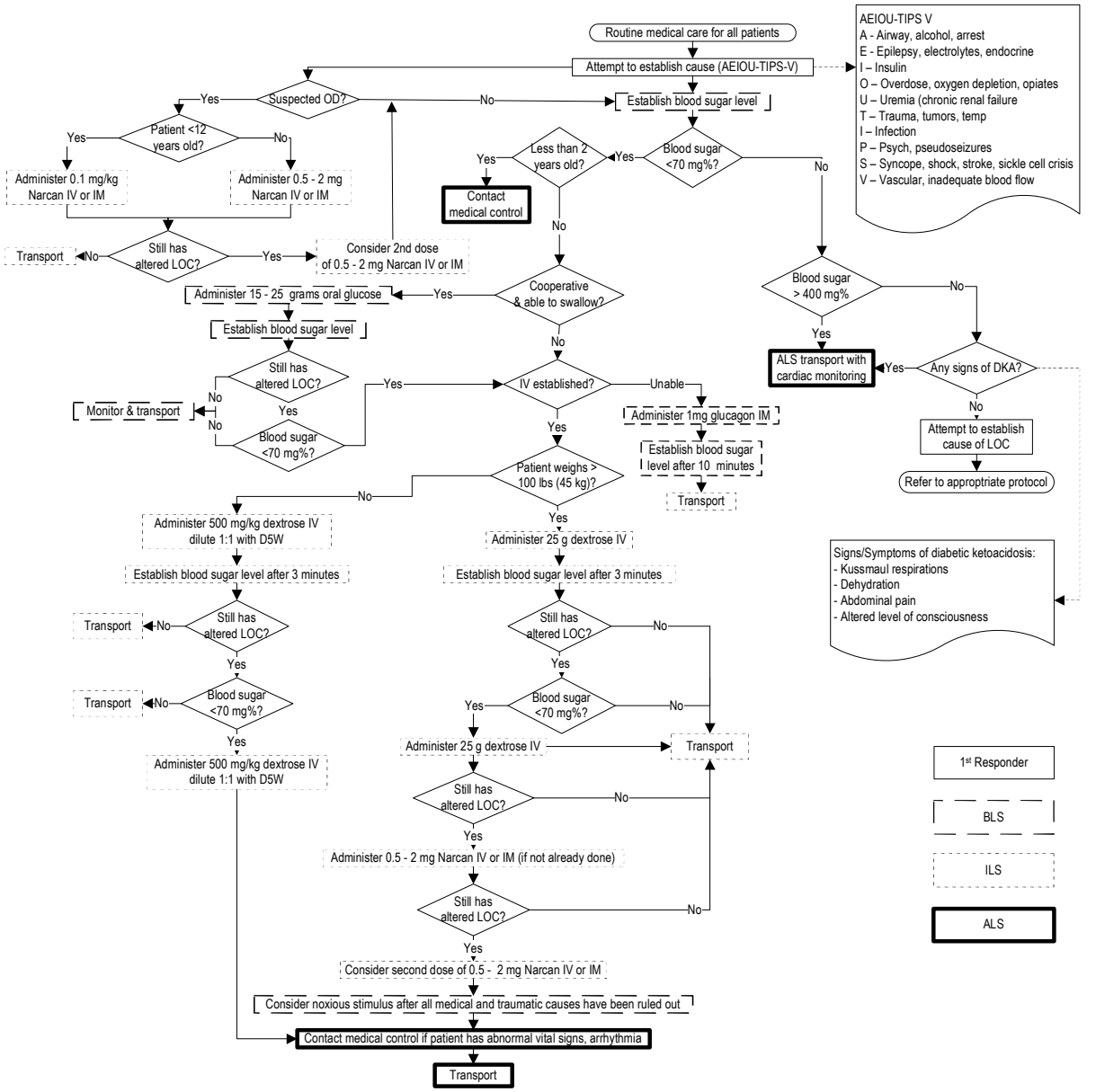


Notes:

- Anaphylactic reactions include a wide spectrum of signs/symptoms that range from minor wheezing to overt shock. Early recognition and treatment, including the use of epinephrine, greatly improves patient outcomes.
- The preferred site for IM injections is the mid-anterolateral thigh.
- IV fluid resuscitation should be initiated for all hypotensive patients.
- There are NO absolute contraindications to epinephrine administration in life-threatening emergencies.
- If using Epi auto injector: Age greater than one but weight less than 30 Kg should receive the "Epi Junior" dose of 0.15 mg.
- If using epinephrine ampule (1:1,000): Age greater than 1 should be administered 0.01 mg/kg.
- If less than age 1 contact EMS Communications for Medical Control before administering epinephrine.

Initiated: 9/21/90	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11	**ALTERED LEVEL OF CONSCIOUSNESS**	WI EMS Approval Date: 6/22/11
Revision: 15		Page 1 of 1

History:	Signs/Symptoms:	Working Assessment:
History of seizure disorder	Unresponsive	Altered LOC
Known diabetic	Bizarre behavior	Insulin shock
History of substance abuse	Cool, diaphoretic skin (hypoglycemia)	Hypoglycemia
History of recent trauma	Abdominal pain, Kussmaul respirations, warm & dry	Diabetic ketoacidosis
Presence of medical alert ID	skin, fruity breath odor, dehydration (diabetic ketoacidosis)	Overdose

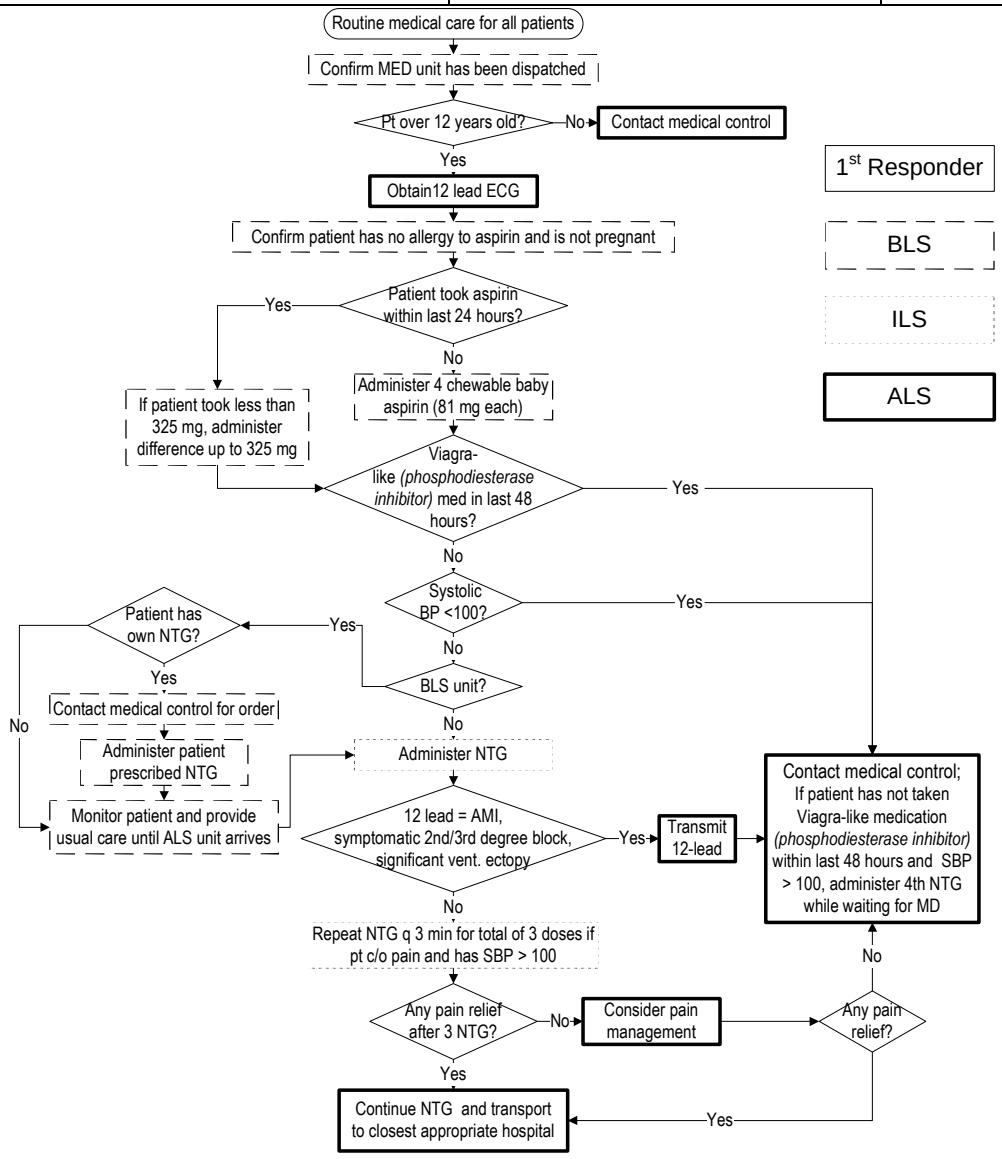


NOTES:

- If the patient is suspected of being unconscious due to a narcotic overdose, restraining the patient may be considered before administering Narcan.
- A 12-lead ECG should be obtained for all diabetic patients with atypical chest pain or abdominal pain or other symptoms that may be consistent with atypical presentation of angina or acute myocardial infarction.

Initiated: 12/10/82	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11	**MEDICAL PROTOCOL**	WI EMS Approval Date: 6/22/11
Revision: 22	**ANGINA/MI**	Page 1 of 1

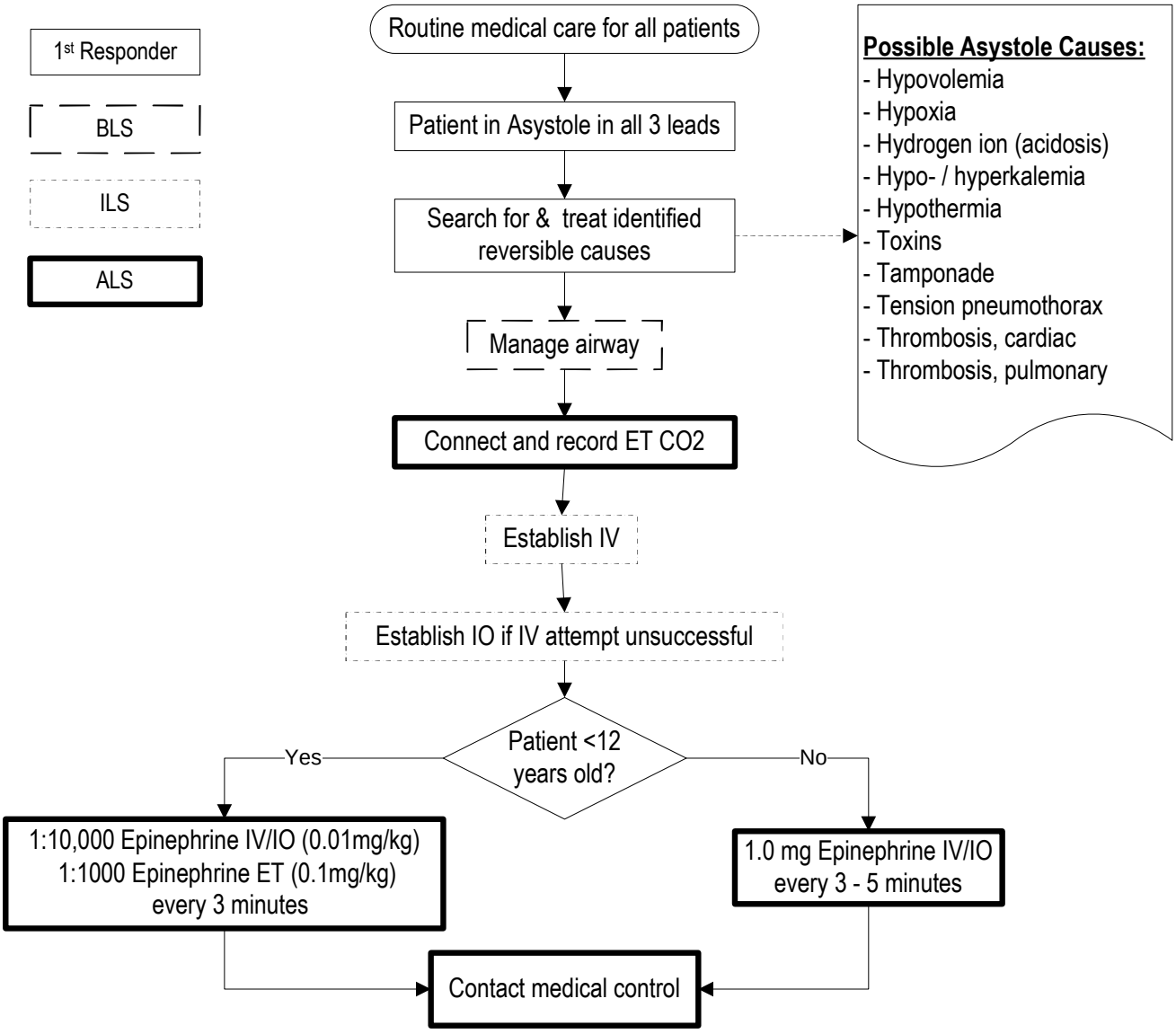
History:	Signs/Symptoms:	Working Assessment:
History of cardiac problems: bypass, cath, stent, CHF Hypertension Diabetes Positive family history Smoker Cocaine use within last 24 hours Available nitroglycerine prescribed for patient	Chest, jaw, left arm, epigastric pain Nausea Diaphoresis Shortness of breath Acute fatigue/ Generalized weakness Syncope Palpitations Abnormal rhythm strip: ectopy, BBB, new onset atrial fibrillation	Angina/MI



Notes:

- BLS and ILS units must confirm that a MED unit is en route before administering medications.
- A 12-lead ECG should be done on all patients with a working assessment of Angina/MI, even if pain free.
- A 12-lead ECG should be done as soon as possible after treatment is started; standard is within ten minutes.
- If the patient's symptoms have been relieved but return, repeat 12-lead ECG and continue NTG every 3 minutes until the patient is pain free.
- An IV line should be established before, or as soon as possible, after administering NTG.
- If a patient experiences sudden hypotension (SBP < 90 mm Hg) after administration of NTG, begin administration of a 500 ml Normal Saline fluid bolus and contact medical control.

Initiated: 11/73	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11	**ASYSTOLE**	WI EMS Approval Date: 6/22/11
Revision: 21		Page 1 of 1



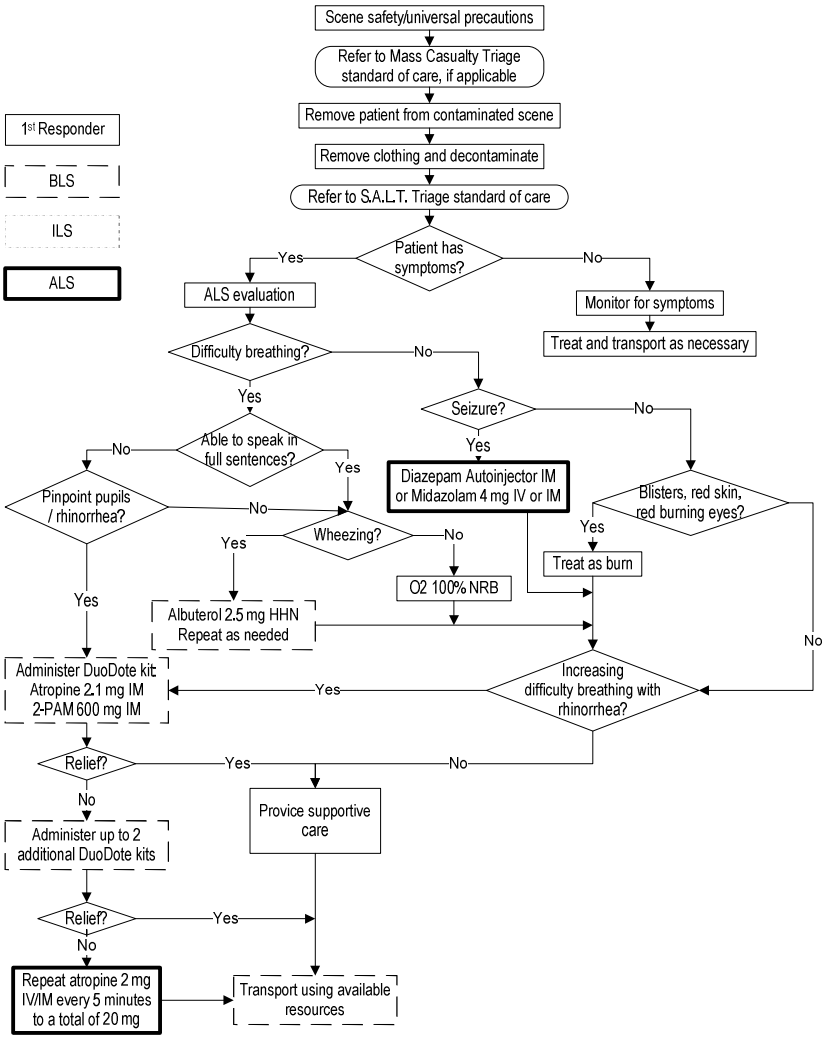
NOTES:

- When unable to establish an IV, epinephrine is to be administered via ETT at 2.0 mg doses.
- For pediatric patients:
  High dose epinephrine is not indicated in pediatric patients with IV/IO access.
  High dose epinephrine is only indicated when administered via ETT.

Initiated: 5/14/03	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL CHEMICAL EXPOSURE**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11		WI EMS Approval Date: 6/22/11
Revision: 3		Page 1 of 1

History	Signs/Symptoms	Working Assessment
Known chemical exposure Multiple patients with similar symptoms (e.g. seizures)	**S**alivation (drooling) **L**acrimation (tearing) **U**rination **D**efecation (diarrhea) **G**eneralized twitching/seizures **E**mesis (vomiting) **M**iosis (pinpoint pupils)	Exposure to nerve agents or organophosphates (e.g. insecticides)

This is intended to be used only in cases of possible exposure to nerve agents or other organophosphates (e.g. insecticides).

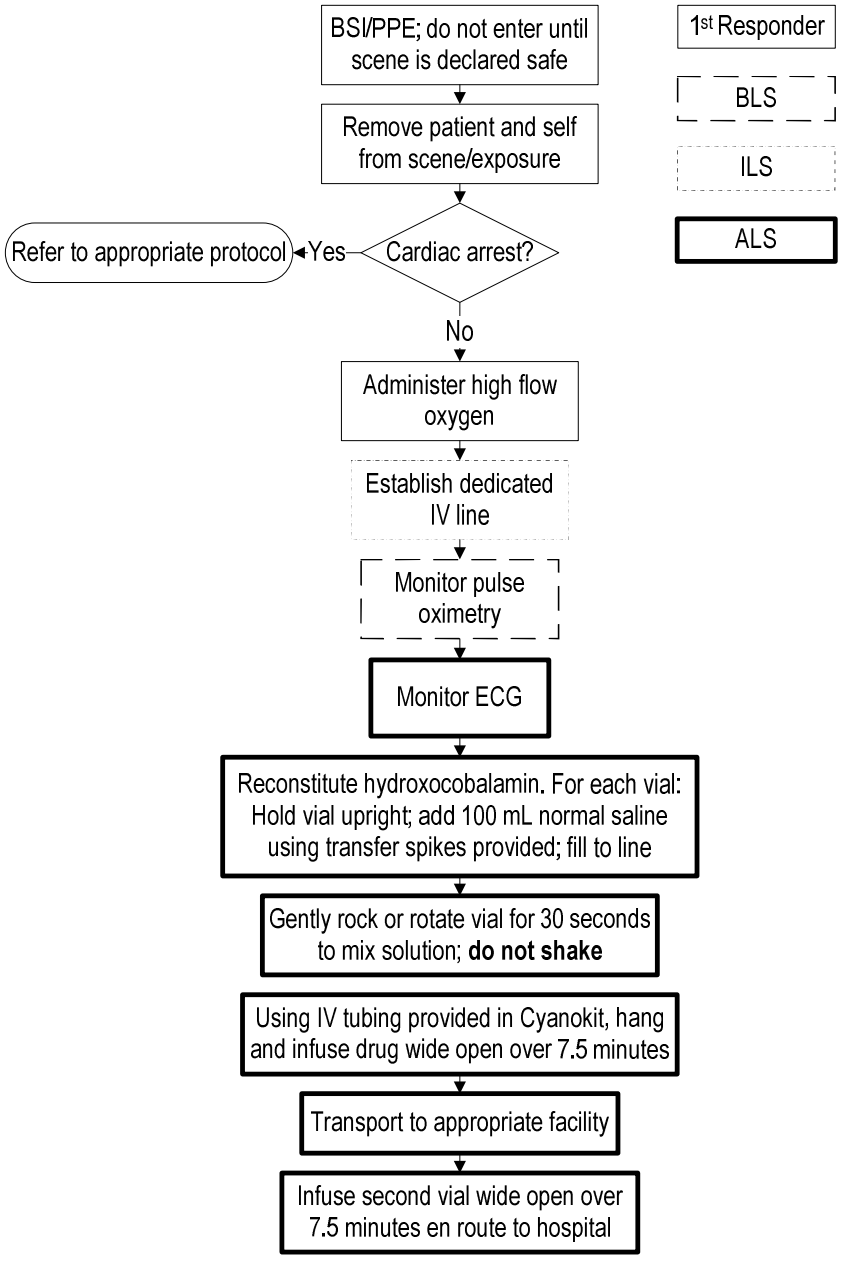


NOTES:

- If symptoms of SLUDGEM appear, the first step is to remove the patient from the contaminated area as quickly as possible. This is often the only treatment needed.
- If vapor exposure alone, no need for skin decontamination.
- Administration of atropine is indicated only if there is an increasing difficulty breathing (inability to speak in full sentences) and rhinorrhea. If miosis alone, do not administer atropine.
- A total of three DuoDote kits may be administered to a single patient.
- Premature administration of the DuoDote kit poses a higher risk of death due to atropine-induced MI

Initiated: 7/1/11	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised:	**MEDICAL PROTOCOL**	WI EMS Approval Date: 6/22/11
Revision:	**CYANIDE POISONING**	Page 1 of 1

History:	**Signs/Symptoms:**		**Working Assessment:**
Patient found in an area with known or suspected cyanide exposure	Dyspnea Tachypnea Tachycardia / bradycardia Headache Dizziness Generalized weakness	Bizarre behavior Confusion Excessive sleepiness Coma Flushed Bitter almonds smell	Possible cyanide poisoning

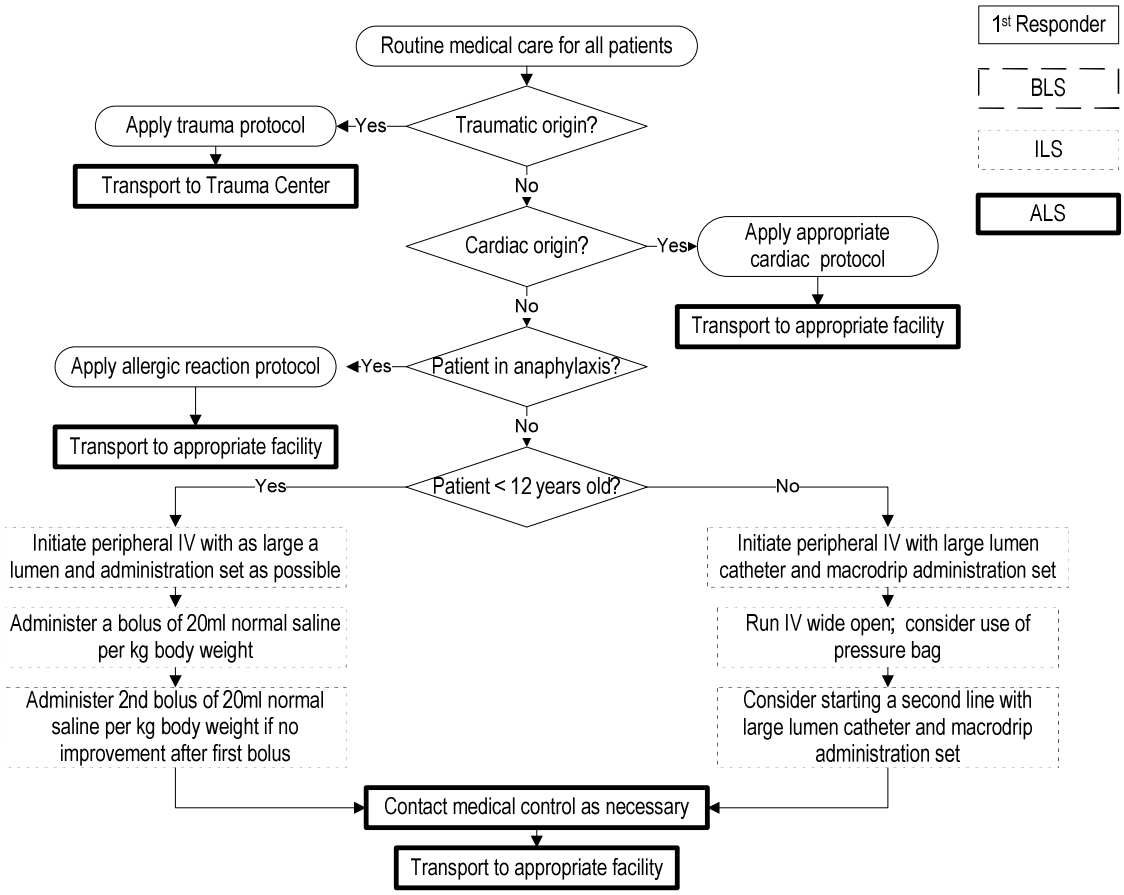


NOTES:

- Cyanide kits may be supplied by industrial facility where there is a risk of employee exposure
- Cyanide kit provides medication, vented IV tubing and 2 transfer spikes
- A dedicated IV line is critical, as the medication (hydroxocobalamin) is not compatible with many other medications
- Medication turns red when reconstituted

Initiated: 9/92	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11	**MEDICAL PROTOCOL**	WI EMS Approval Date: 6/22/11
Revision: 3	**HYPOTENSION/SHOCK**	Page 1 of 1

History:	**Signs/Symptoms:**	**Working Assessment:**
Blood loss: Trauma Vaginal bleed, GI bleed, AAA, ectopic pregnancy Fluid loss: Vomiting, diarrhea, fever Infection Cardiac ischemia (MI, CHF) Infection Spinal cord injury Allergic reaction Pregnancy	Restlessness, confusion Weakness, dizziness Weak, rapid pulse Cyanosis Increased respiratory rate Pale, cool, clammy skin Delayed capillary refill Systolic blood pressure less than 90 mmHg	Shock: Hypovolemic Cardiogenic Septic Neurogenic Anaphylactic Ectopic pregnancy Dysrhythmia Pulmonary embolus Tension pneumothorax Medication effect/overdose Vasovagal Physiologic (pregnancy)



NOTES:

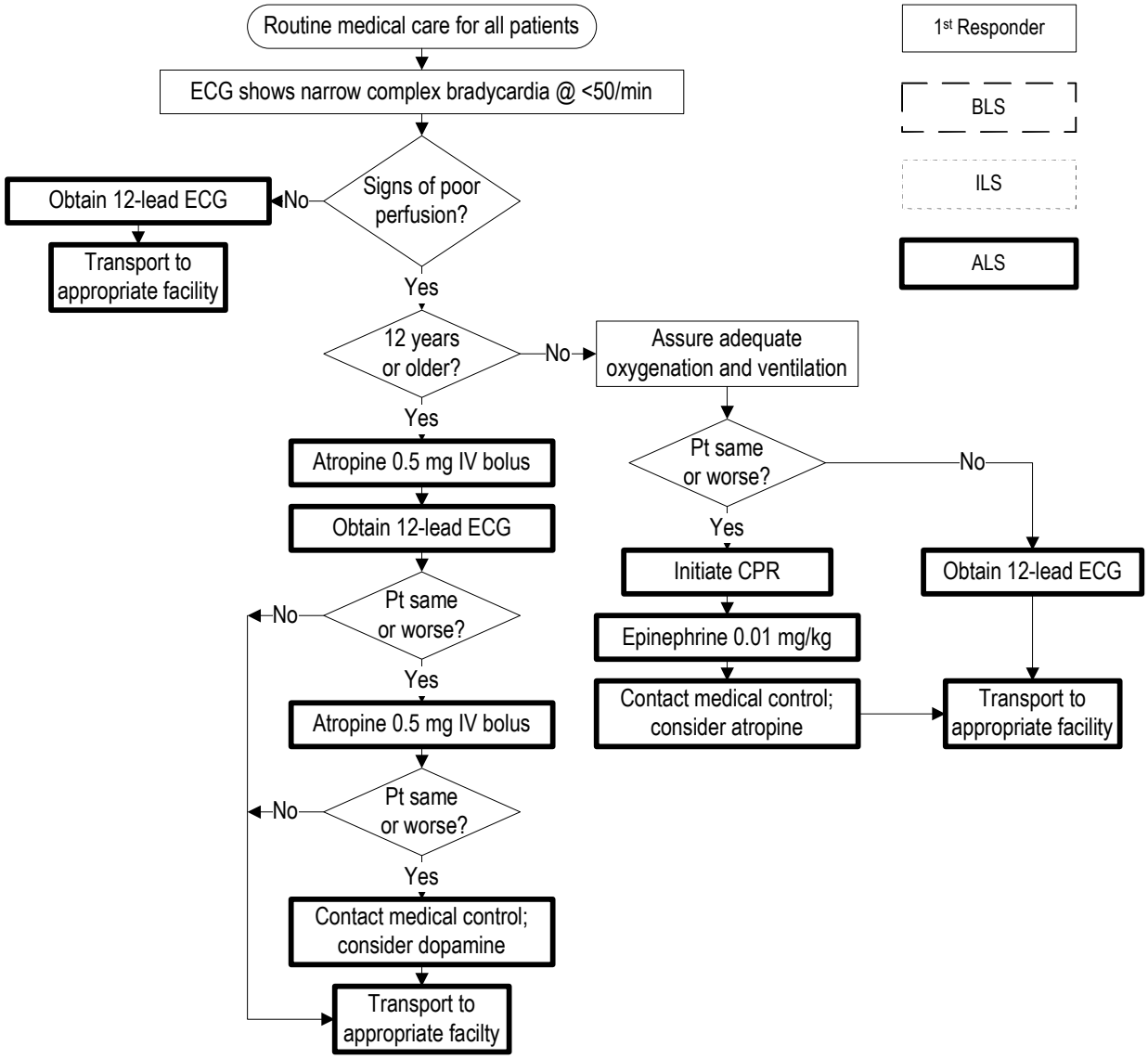
- Hypotension is defined as a systolic blood pressure less than 90 mmHg or a fall of more than 60 mmHg in a previously hypertensive patient.
- Consider performing orthostatic vital signs on patients who haven't sustained traumatic injuries if suspected blood or fluid loss.
- Patients with preexisting heart disease who are taking beta-blockers or who have pacemakers installed may not be able to generate a tachycardia to compensate for shock.

Initiated: 5/22/98
Reviewed/revised: 7/1/11
Revision: 2

MILWAUKEE COUNTY EMS
MEDICAL PROTOCOL
NARROW COMPLEX
BRADYCARDIA WITH PULSES

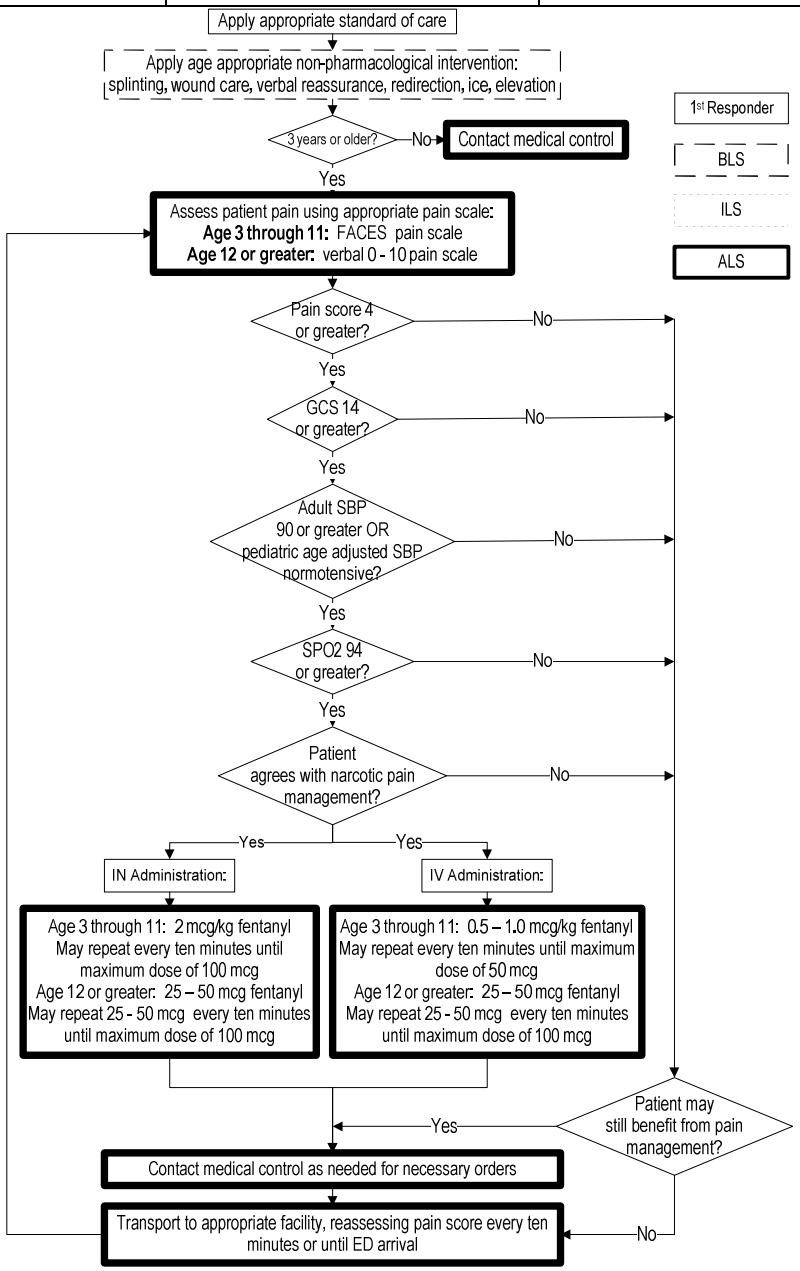
Approved by: Ronald Pirrallo, MD, MHSA
WI EMS Approval Date: 6/22/11
Page 1 of 1

History	Signs/Symptoms	Working Assessment
Medications: Beta-blockers Calcium-channel blockers Digitalis Pacemaker	Systolic BP < 90 Altered LOC, dizziness Chest pain Shortness of breath Diaphoresis ECG shows narrow complex <50/min	Narrow complex bradycardia



Initiated: 2/13/08	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11	**PAIN MANAGEMENT**	WI EMS Approval Date: 6/22/11
Revision: 4		Page 1 of 1

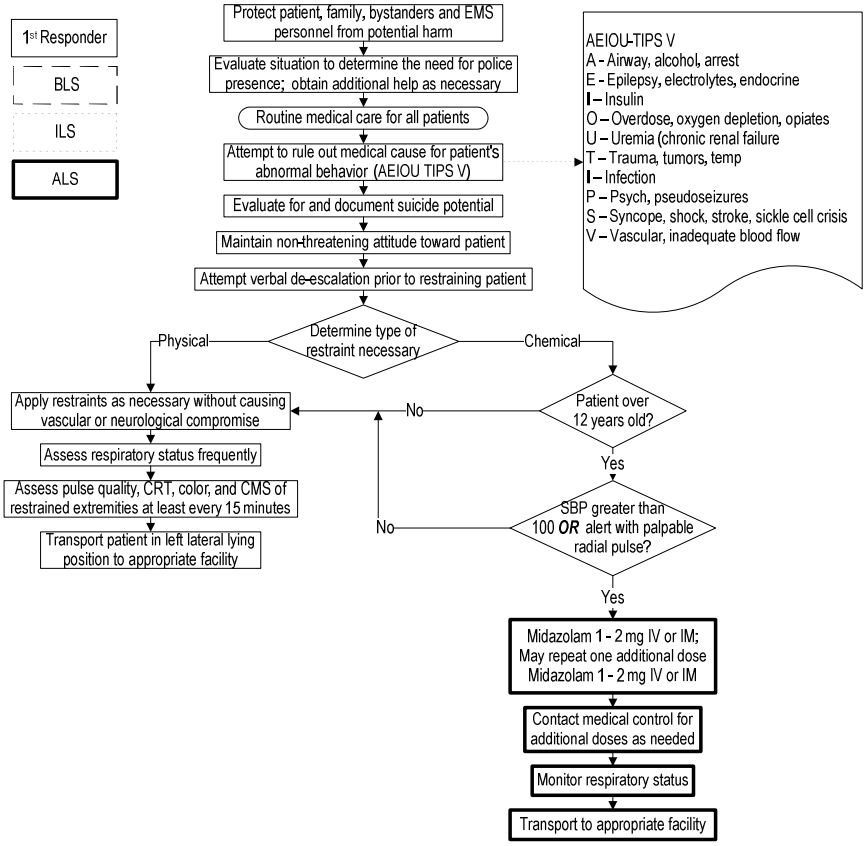
History	Signs/Symptoms	Working Assessment
Traumatic Injury Burns Abdominal Pain Sickle cell crisis Chest pain	FACES or Verbal Pain scale rating at 4 or greater	Candidate for narcotic pain management



Notes:

- Goal is to reduce pain scale score below 4
- IV, IN, IM, IO routes acceptable for administration of fentanyl
- If unable to acquire BP secondary to uncooperative patient due to painful condition, may administer fentanyl if no clinical evidence of shock ***AND*** if GCS is 14 or greater

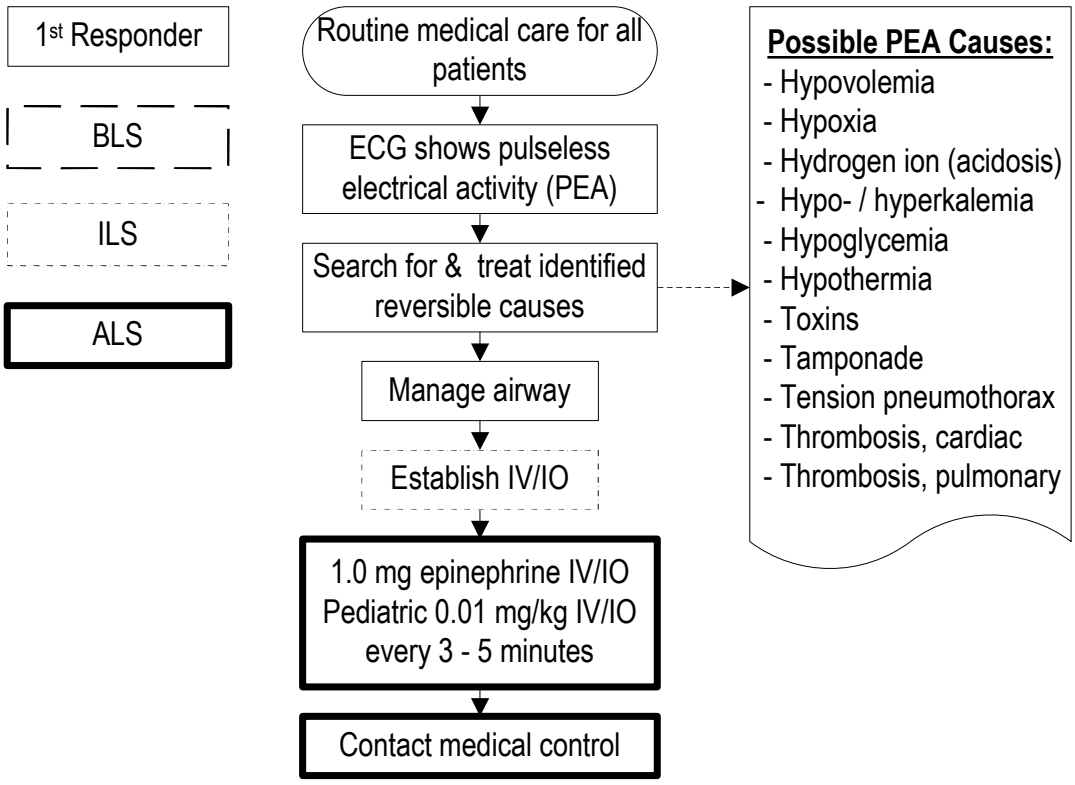
Initiated: 2/22/96	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11	**MEDICAL PROTOCOL**	WI EMS Approval Date: 6/22/11
Revision: 6	**PATIENT RESTRAINT**	Page 1 of 1



NOTES:

- Use the least restrictive or invasive method of restraint necessary.
- Chemical restraint may be less restrictive and more appropriate than physical restraint in some situations
- Documentation of need for restraint must include:
  - Description of the circumstances/behavior which precipitated the use of restraint
  - A statement indicating that patient/significant others were informed of the reasons for the restraint and that its use was for the safety of the patient/bystanders
  - A statement that no other less restrictive measures were appropriate and/or successful
  - The time of application of the physical restraint device
  - The position in which the patient was restrained and transported
  - The type of restraint used
- Physical restraint equipment applied by EMS personnel must be padded, soft, allow for quick release, and may not interfere with necessary medical treatment.
- Spider and 9-foot straps may be used to restrain a patient in addition to the padded soft restraints.
- Restrained patients may NOT be transported in the prone position.
- EMS providers may NOT use:
  - Hard plastic ties or any restraint device which requires a key to remove
  - Backboard or scoop stretcher to "sandwich" the patient
  - Restraints that secure the patient's hands and feet behind the back ("hog-tie")
  - Restraints that interfere with assessment of the patient's airway.
- For physical restraint devices applied by law enforcement officers:
  - The restraints and position must provide sufficient slack in the device to allow the patient to straighten the abdomen and chest to take full tidal volume.
  - Restraint devices may not interfere with patient care.
  - An officer must be present with the patient AT ALL TIMES at the scene as well as in the patient compartment of the transport vehicle during transport
- Side effects of midazolam may include respiratory depression, apnea, and hypotension.

Initiated: 11/73	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11	**MEDICAL PROTOCOL**	WI EMS Approval Date: 6/22/11
Revision: 21	**PULSELESS ELECTRICAL ACTIVITY**	Page 1 of 1

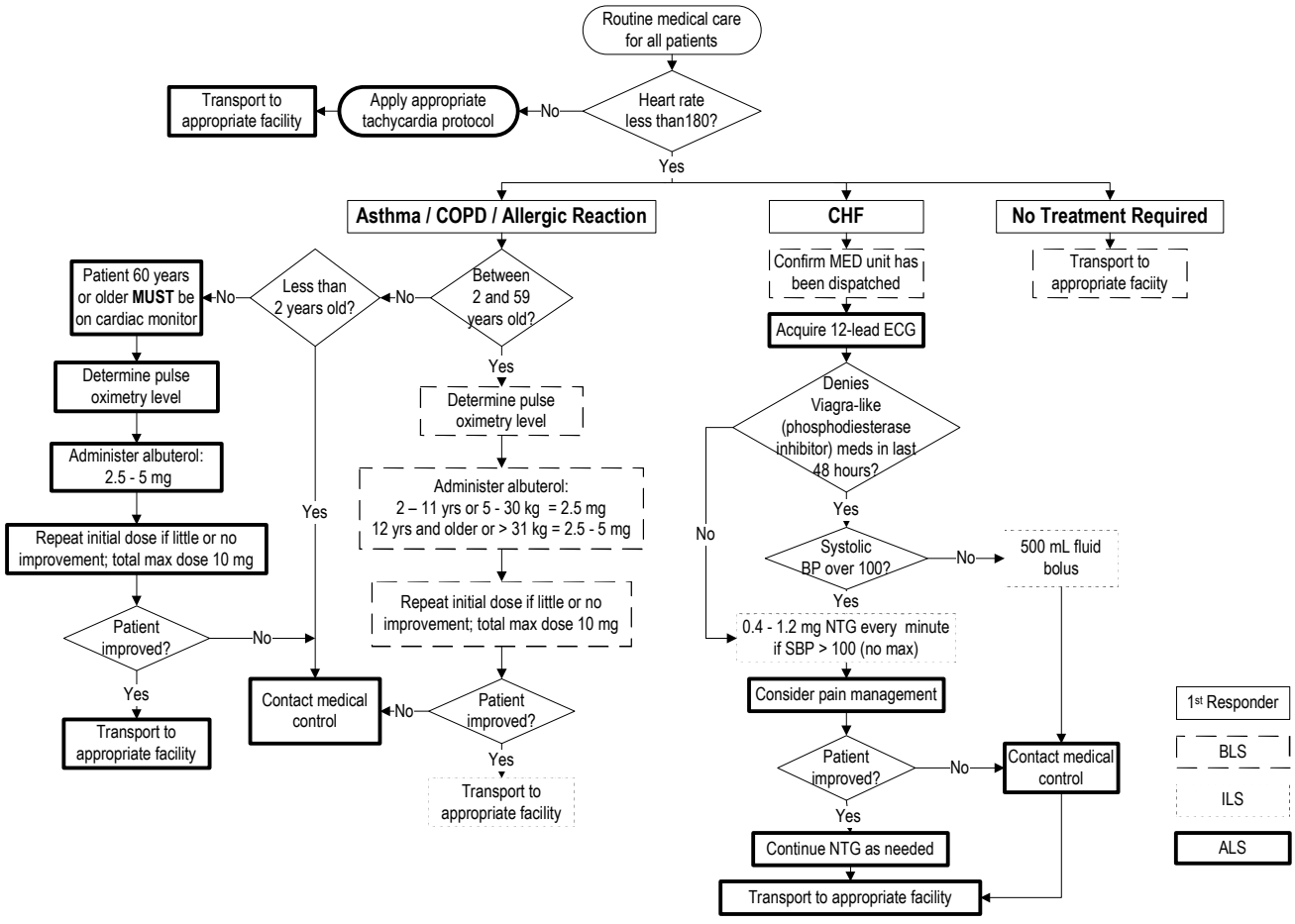


NOTES:

- Advanced airway management and/or rhythm evaluation should not interrupt CPR for >10 seconds
- When unable to establish IV/IO:
  - Adults: administer epinephrine via ET at 2.0 mg doses
  - Pediatric patients: administer epinephrine (0.1mg/kg of 1:1000 epi) via ET

Initiated: 5/22/98	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11	**MEDICAL PROTOCOL**	WI EMS Approval Date: 6/22/11
Revision: 20	**RESPIRATORY DISTRESS**	Page 1 of 1

History	Signs/Symptoms	Working Assessment
May have a history of asthma Exposure to irritant Recent URI	Chest tightness Dyspnea Coughing or wheezing Accessory muscle use	Asthma/Allergic Reaction
History of COPD	Chronic cough Dyspnea Pursed lip breathing Prolonged exhalation Barrel chest Clubbing of fingers	COPD
May have a history of CHF	Orthopnea Restlessness Wet or wheezing breath sounds Hypertension Tachycardia Jugular vein distention	CHF

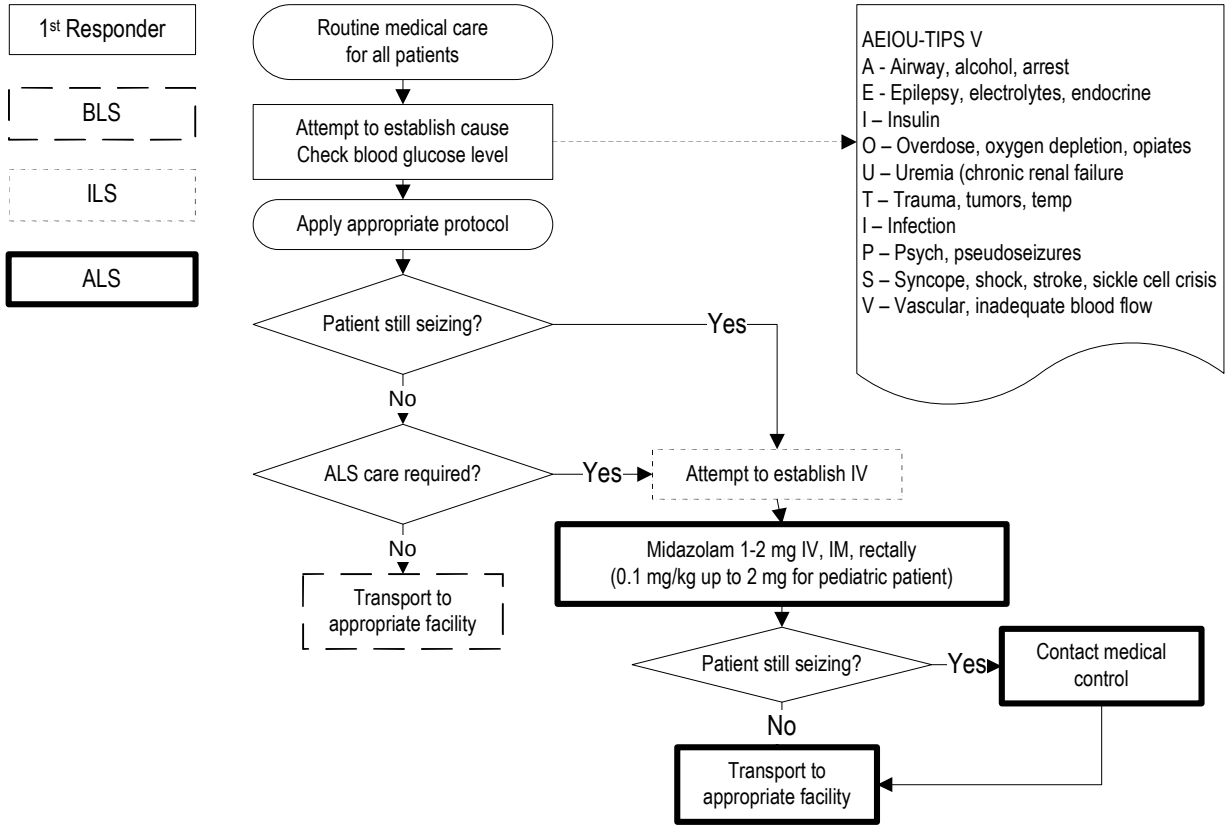


Notes:

- A history of CHF is not required before treatment is initiated.
- If an asthmatic has no improvement after 10 mg of EMS administered albuterol therapy, consider contacting medical control for an ***order*** for intramuscular epinephrine.
- Patient's self-treatment does not limit EMS provider's albuterol dosing.

Initiated: 9/92	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL SEIZURE**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11		WI EMS Approval Date: 6/22/11
Revision: 6		Page 1 of 1

History:	**Signs/Symptoms:**	**Working Assessment:**
Reported/witnessed seizure activity History of seizures Medic alert tag Anti-seizure medications History of recent trauma History of diabetes Pregnancy Fever	Seizure activity Decreased mental status (post ictal) Sleepiness Incontinence Trauma	Seizure (look for underlying cause): • Head trauma • Noncompliance • Fever/infection • Hypoglycemia • Overdose/poisoning • Alcohol withdrawal • Hypoxia • Eclampsia

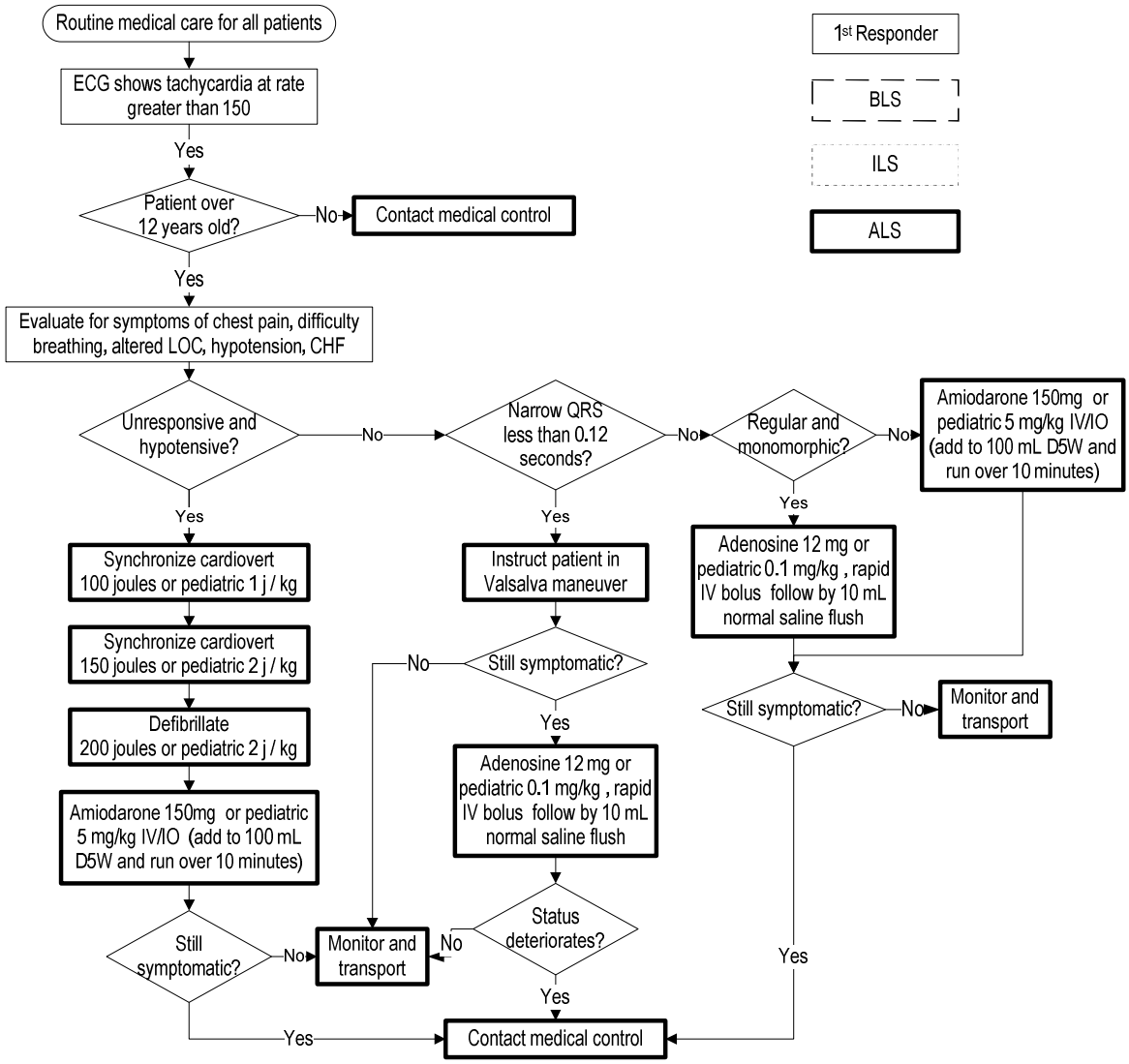


NOTE:

- Pediatric patients with febrile seizures rarely seize more than once. If patient seizes again, evaluate for another cause.
- Status Epilepticus is defined as two or more successive seizures without a period of consciousness or recovery.

Initiated: 5/22/98	**MILWAUKEE COUNTY EMS**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11	**MEDICAL PROTOCOL**	WI EMS Approval Date: 6/22/11
Revision: 7	**TACHYCARDIA WITH PULSES**	Page 1 of 1

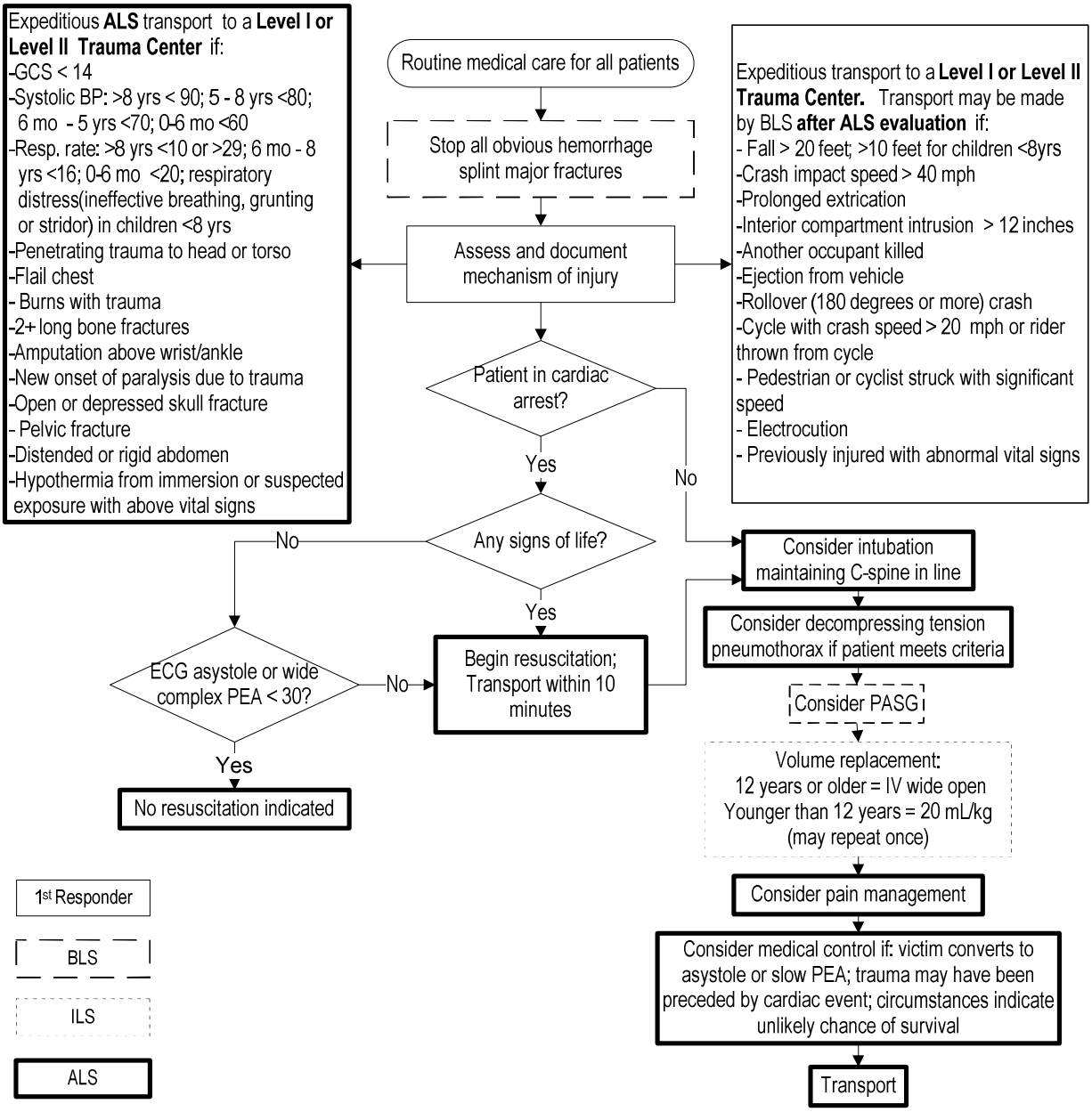
History	Signs/Symptoms	Working Assessment
Arrhythmia History of palpitations or "racing heart" AICD MI CHF History of stimulant ingestion	Systolic blood pressure <90 Altered LOC, dizziness Chest pain Shortness of breath Diaphoresis Palpitations ECG shows tachycardia greater than 150/min	Tachycardia



NOTES:

- Contraindications to adenosine are: heart block, heart transplant, resuscitated cardiac arrest; patients taking theophylline products, Tegretol (carbamazapine, which increases the degree of heart blocks caused by adenosine) or Persantine (dipyridamole, which potentiates the affects of adenosine).
- Because of its short half-life, adenosine must be administered rapid IV bolus followed by a 10 cc normal saline flush
- After administration of adenosine, patient may have a disorganized ECG or brief period of asystole prior to conversion to sinus rhythm. Patients have reported feelings of "impending doom" during this period.
- Adenosine is not effective on atrial fibrillation.
- Carotid massage is not to be performed in the Milwaukee County EMS System.

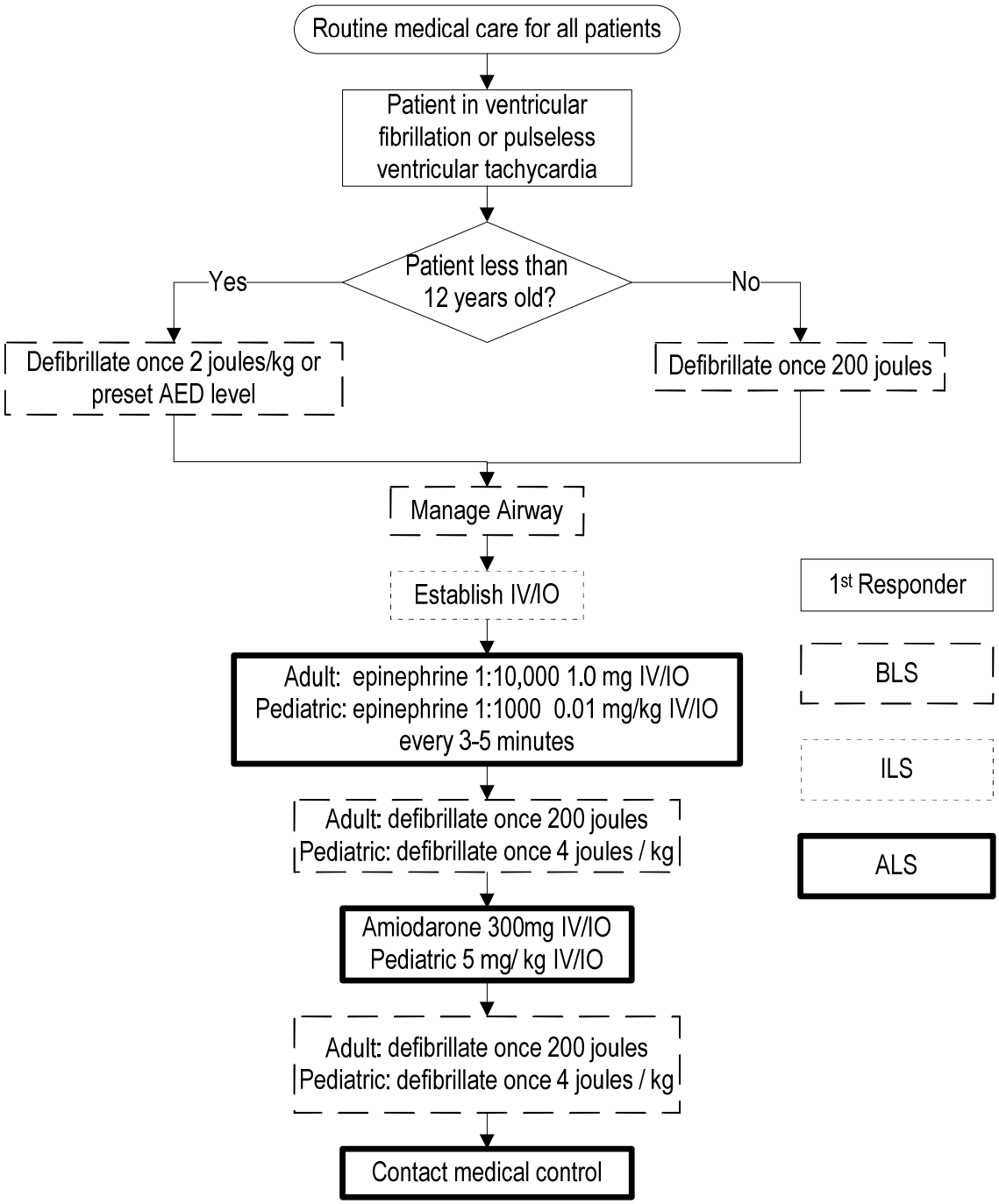
Initiated: 12/10/82	**MILWAUKEE COUNTY EMS MEDICAL PROTOCOL**	Approved by: Ronald Pirrallo, MD, MHSA
Reviewed/revised: 7/1/11	**TRAUMA**	WI EMS Approval Date: 6/22/11
Revision: 12		Page 1 of 1



NOTES:

- In all patients with trauma-related cardiac arrest, establish the probable cause of the arrest.
- Resuscitation must be initiated on all patients with narrow (<0.12 sec) QRS complexes regardless of the rate. Patients in ventricular fibrillation or ventricular tachycardia should be defibrillated once.
- If resuscitation is not attempted based on the PFR or MED unit's interpretation of the ECG rhythm, the PFR or ALS team must complete the appropriate portion of the record.
- Apply pelvic splint or inflate pneumatic antishock garment (PASG) for patients with suspected pelvic fracture.
- Notify EMS Communications of the circumstances of the transport, ETA, and include adequate information to facilitate Trauma Team activation.
- Only reason to consider transport to the closest receiving hospital other than a trauma center is for the inability to ventilate the patient.

OR PULSELESS VENTRICULAR TACHYCARDIA



NOTES:

- Resume CPR immediately after shock for 2 minutes prior to re-checking rhythm
- Advanced airway management and/or rhythm evaluation should not interrupt CPR for >10 seconds
- When unable to establish IV/IO,
  - Adults: administer epinephrine 1:1000 via ET at 2.0 mg doses
  - Pediatric patients: administer epinephrine (0.1mg/kg of 1:1000 epi) via ET